**IN THE CLAIMS:**

Please cancel claims 2 and 5 without prejudice to or disclaimer of the subject matter recited therein.

Please amend claims 1 and 6 as follows:

## LISTING OF CURRENT CLAIMS

Claim 1. (Currently Amended) An apparatus for analyzing performance of a multi-stage radio frequency amplifier, comprising:

an input power source circuit;

a front-stage matching network receiving power provided by the input power source circuit;

a mid-stage network connected in back of the front-stage matching network and receiving power transferred by the front-stage matching network, wherein a plurality of single-stage amplifiers and a plurality of mid-stage matching networks are in the mid-stage network;

a back-stage matching network connected in back of the mid-stage network; and

an output circuit connected in back of the back-stage matching ~~network.~~ network;

wherein the mid-stage network further comprises a plurality of single-stage amplifiers and a plurality of mid-stage matching networks, and every mid-stage matching network is clipped between two single-stage amplifiers, wherein a power source reflection coefficient $\Gamma_S$ of front stage matching network and a load reflection coefficient $\Gamma_L$ of the back stage matching network are obtained respectively, the power source terminal reflection coefficient $\Gamma_S$ is adjusted to be maximum power source terminal reflection coefficient $\Gamma_{S,max}$ for conjugate matching with an input reflection coefficient $\Gamma_{IN}$ of the mid-stage network, and the load reflection coefficient $\Gamma_L$ is also adjusted to be maximum load reflection coefficient $\Gamma_{L,max}$ for conjugate matching with an output reflection coefficient $\Gamma_{OUT}$ of mid-stage network.

Claim 2. (Canceled)

Claim 3. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 1, wherein the input power source circuit comprises a power generating device and an input characteristic impedance.

Claim 4. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 1, wherein the output circuit is an output characteristic impedance with 50 ohms.

Claim 5. (Canceled)

Claim 6. (Currently Amended) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim ~~5,~~ 1, wherein after the maximum gain of the input-stage matching network and of output-stage matching network are acquired, the above two matching network are neglected, and the mid-stage network is treated as a first-stage amplifier, a first-stage mid matching network and a second-stage amplifier.

Claim 7. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 6, wherein gain values of the first-stage amplifier and of the second-stage amplifier are fixed.

Claim 8. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 6, wherein a mid matching network gain $G_L$ and power source terminal mid-matching network $G_S$ are obtained by using the load reflection coefficient $\Gamma_L$ and the power source terminal reflection coefficient $\Gamma_S$, and a power source matching network maximum gain $G_{Smax}$ and a load matching network maximum gain $G_{Lmax}$ can be made by adjusting the power source terminal reflection coefficients $\Gamma_S$ and the load reflection coefficient $\Gamma_L$, respectively.

Claim 9. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 7, wherein the first-stage amplifier with fixed gain value and the second-stage amplifier with fixed gain value are neglected, and the mid-matching network is viewed as a first-stage amplifier, a first-stage mid matching network and a second-stage amplifier.

Claim 10. (Original) The apparatus for analyzing performance of a multi-stage radio frequency amplifier as in claim 9, wherein the power source terminal reflection coefficients $\Gamma_S$, and the load reflection coefficient $\Gamma_L$, are measured from an end of the first mid-matching network and an end of the second mid-matching network, respectively.

Claim 11. (Original) A method for analyzing performance of a multi-stage radio frequency amplifier, wherein the application comprises improving a prior art trial and error method, the method providing:

identifying whether an unset external network is either a matching network or an amplifier network;

simplifying the multi-stage radio frequency amplifier, wherein the multi-stage radio frequency amplifier is decomposed into a front-stage matching network, a mid-stage network and a back-stage matching network when an external network of the multi-stage radio frequency amplifier is a matching network, and the multi-stage radio frequency amplifier is decomposed into a front-stage amplifier, a mid-stage matching network and a back-stage amplifier;

adjusting a power source terminal reflection coefficient $\Gamma_S$ to be a maximum power source terminal reflection coefficient $\Gamma_{S,max}$ for conjugate matching with an input reflection coefficient $\Gamma_{IN}$;

adjusting a load reflection coefficient $\Gamma_L$ to be a maximum load reflection coefficient $\Gamma_{L,max}$ for conjugate matching with an output reflection coefficient $\Gamma_{OUT}$; and

repeating said above-mentioned steps on non-analyzing networks until all of networks are set.

Claim 12. (Original) The method for analyzing performance of a multi-stage radio frequency amplifier as in claim 11, wherein the method analyzes the simplified power source terminal reflection coefficient $\Gamma_S$ of the front-stage matching network of the multi-stage radio frequency amplifier and the simplified back-stage matching network load reflection coefficient $\Gamma_S$.

Claim 13. (Original) The method for analyzing performance of a multi-stage radio frequency amplifier as in claim 11, wherein the method further provides:

obtaining an input terminal reflection coefficient $\Gamma_S$ of a mid-stage matching network and a load reflection coefficient $\Gamma_L$;

obtaining a power source matching network gain $G_S$ and a load matching network gain $G_L$;

modulating the power source matching network gain $G_S$ to be a power source matching network maximum gain $G_{Smax}$ and the load matching network gain GL to be a load matching network maximum gain $G_{Lmax}$ by adjusting the reflection coefficient $\Gamma_S$ and the reflection coefficient $\Gamma_L$, respectively; and

deriving maximum transferring rate and less gain loss.

Claim 14. (Original) The method for analyzing performance of a multi-stage radio frequency amplifier as in claim 11, wherein the method further provides:

identifying the accomplishment of analyzing the multi-stage radio frequency amplifier for a jump procedure;

re-executing the above-mentioned procedures when analysis of the multi-stage radio frequency amplifier is not performed; and

performing the jump procedure when analysis of the multi-stage radio frequency amplifier is complete.

Claim 15. (Original) The method for analyzing performance of a multi-stage radio frequency amplifier as in claim 12, wherein the method further provides:

measuring first-stage amplifier gain $G_{01}$, second-stage amplifier $G_{02}$, third-stage amplifier gain $G_{03}$...., Nth-stage amplifier gain $G_N$ as well as the input reflection coefficient $\Gamma_{IN}$ and output reflection coefficient $\Gamma_{OUT}$ by using a 50 ohms impedance; and

obtaining the power source terminal reflection coefficient $\Gamma_S$ and the load reflection coefficient $\Gamma_L$ of each mid-stage matching network.